IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant Serial No.

Cristina Gomila et al.

10/569,318

February 22, 2006

METHOD AND APPARATUS FOR MODELING FILM GRAIN

: PATTERNS IN THE FREQUENCY DOMAIN

Examiner : Not Yet Assigned

Art Unit : 2812

INFORMATION DISCLOSURE STATEMENT

[XX] 1 Pursuant to 37 CFR 1.97(b)
[within 3 months of filling or prior to 1st Office Action]

[12 Pursuant to 37 CFR 1.97(c)

[before Final Office Action or Allowance]

[] 3 Pursuant to 37 CFR 1.97(d)
[after Final Office Action or Allowance, but prior to payment of Issue Fee1]

Mail Stop Amendment Commissioner for Patents P. O. Box 1450 Alexandria, Virginia 22313-1450

Sir

The following are submitted in the above-identified application in compliance with 37 CFR 1.97 & 1.98:

[XX] 4 A list of documents on form PTO/SB/08a and/or PTO/SB/08b together with copies of each identified document and a translation or a concise explanation of each non-English language document is enclosed herewith.

This paper is submitted in accordance with:

[XX] 5 37 CFR 1.97(b): [within 3 months of filing or prior to 1st Office Action] 116 37 CFR 1.97(c): [before Final Office Action or Allowance, whichever is earlier]; and The required certification made in item 8(a) below; OR [] (a) [] (b) The \$180.00 fee specified in 37 CFR 1.17(p) for submission of this Information Disclosure Statement is authorized in item 9 below. [17 37 CFR 1.97(d): [after Final Office Action or Allowance, but prior to payment of Issue Feel: and [](a) The required Certification made in item 8(a) below; AND [] (b) The \$180.00 fee specified in 37 CFR 1.17(p) for submission of this

Information Disclosure Statement is authorized in item 9 below.

Customer No. 24498 Serial No.: 10/569,318 PATENT PU030259

[] 8 Certification

- (a) Each item of information contained in this Statement was cited in a communication from a foreign patient office in a counterpart foreign application not more than three months prior to the filing of this Statement; or
- [] (b) No item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing this document after making reasonable inquiry, was known to any individual designated in 37 CFR 1.56(c) more than three (3) months prior to the filing of this Statement.
- [XX] 9 Please charge the applicable fees associated with the submittal of this Information Disclosure Statement to Deposit Account No. <u>07-0832</u>. An original and one (1) copy of this document is enclosed.

Respectfully submitted.

CRISTINA GOMILA ET AL.

Bv:

Robert B. Levy, Attorney Registration No. 28,234 (609) 734-6820

THOMSON Licensing LLC Patent Operations P.O. Box 5312 Princeton, New Jersey 09543-5312

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in a postage paid envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date indicated below.

Date: May 14, 2007 Signature Zon Klowin

IDS Form Ltr. 1

Please type a plus sign (+) inside this box →

PTO/SB/08A (10-96)
Approved for use through 10/31/99, OMB 0651-031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

3 Substitute for form 1449A/PTO

Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)

of

3

Complete if Known Application Number 10/569318 Filing Date FEBRUARY 22, 2006 First Named Inventor CRISTINA GOMILA ET AL Group Art Unit 2812 Examiner Name Attomey Docket Number PU030259

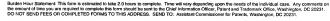
U.S. PATENT DOCUMENTS U.S. Patent Document Date of Publication of ages, Columns, Lines, Where Relevant Cite Name of Patentee or Applicant -vami Kind Code Cited Document nitiale" No.1 Number of Cited Document Passages or Relevant MM-DD-YYYY Figures Appear /M.E US20020034337 SHEKTER 03-21-2002 /M.E US4935816 FABER 06-19-1990 /M.F US5140414 MOWRY 08-18-1992 /M.E. US5335013 FARER 08-02-1994 /M.F. US5374954 MOWRY 12-20-1994 /M.E US5406326 MOWRY 04-11-1995 /M.F. US5471572 BUCHNER ET AL 11-28-1995 M.E. US5475425 PRZYBORSKI ET AL 12-12-1995 /M F US5629769 COOKINGHAM ET AL 05-13-1997 US5641596 GRAY ET AL ME 06-24-1997 M.F US5687011 MOWRY 11-11-1997 US5709972 COOKINGHAM ET AL. 01-20-1998 US5767860 ZIMMER ET AL 06-16-1998 US5831673 PRZYBORSKI ET AL 11-03-1998 M.E. US5457491 MOWRY 10-10-1995

1		FOREIGN PATENT DOCUMENTS							
1	Exeminer Initials	Cite No.1		Foreign Patent Document		Neme of Patentee or	Date of Publication of	Pages, Columns, Lines, Where Relevent	
			Office	3 Number ⁴	Kind Code ⁵ (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Pesseges or Relevent Figures Appear	T6
	71.E./		EP	EP0622000		FABER	10-15-1992		П
	1.E./		EP	EP1175091		PRZYBORSKI ET AL.	01-23-2002		\Box
1	M.E./		EP	EP1215624		EASTMAN KODAK COMPAN'	06-19-2002		\Box
/	И.Е./,		wo	WO0146992		BROWN UNIVERSITY RESEA	06-28-2001		П
	VI.E./		wo	WO0177871		DEMOGRAFX	10-18-2001		\Box
1	VI.E./		wo	WO2004104931		THOMSON LICENSING S.A.	12-02-2004		\Box
			wo	WO9314591		FABER	07-22-1993		\Box
	M.E./		wo	WO9520292		PRZYBORSKI ET AL.	07-27-1995		П
//	/I.E./		wo	WO9722204		PRZYBORSKI	06-19-1997		\Box

Examiner Signature	/Michelle Entezari/	Date Considered	08/11/2008
'EXAMINER: Initia	I if reference considered, whether or not citation is in co-	formance with MPEP 609 Draw line	through citation if not in conformance and

al if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Unique citation designation number. 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). * For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the petent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST, 16 if possible. 6 Applicent is to place a check mark here if English language Translation is attached.



Please type a plus sign (+) inside this box →

Progsaces (10-96)

Approved for use through 105/100, Olde 854-4031

Patent and Tademan Office: U.S. DEPARTINENT OF COMMERCE

Under the Paperwork Reduction Act of 1985, no persons are required to respond to a collection of information unless is contained a valid OMS control number.

Complete if Known Substitute for form 1449B/PTO Application Number 10/569318 INFORMATION DISCLOSURE FEBRUARY 22, 2006 Filing Date First Named Inventor STATEMENT BY APPLICANT CRISTINA GOMILA ET AL Group Art Unit 2812 (use as many sheets as necessary) Examiner Name Sheet 2 of 3 Attomey Docket Number PU030259

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS					
Cite No. ^t	include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²			
	, AL-SHAYKH ET AL, "Lossy Compression of Images Corrupted by Film Grain Noise," School of Electrical and Computer Engineering, 1996 IEEE.				
	, AL-SHAYKH ET AL, "Restoration of Lossy Compressed Noisy Images," IEEE Transactions on Image Processing, Vol. 8, No. 10, October 1999.				
	, AL-SHAYKH, "Lossy Compression of Nolsy Images," IEEE Transactions on Image Processing, Vol. 7, No. 12, December 1998.				
	. BRIGHTWELL ET AL, "Automated Correction of Film Unsteadiness, Dirt and Grain," International Broadcastling Convention, September 16-20, 1994, Conference Publication No. 397, IEE, 1994.				
	, CAMPISI ET AL, "Signal-Dependent Film Grain Noise Generation Using Homomorphic Adaptive Filtering," IEE Proceedings, Image Signal Process, Vol. 147, No. 3, June 2000.				
	. ZHAO ET AL, "Constant Quality Rate Control for Streaming MPEG-4 Fgs. Video," Integrated Media Systems Center and Department of Electrical Engineering, University of Southern California, 2000 IEEE.				
	. CHAVEL ET AL, "Film Grain Noise in Partially Coherent Imaging," Optical Engineering, Vol. 19, No. 3, May- June 1980.				
	.FISCHER ET AL, "Image Sharpening Using Permutation Weighted Medians," Department of Electrical Engineering, University of Delaware, fischer@ee.udel.edu, paredesj@ee.udel.edu, arce@ee.udel.edu.				
	.ILLINGWORTH ET AL, "Vision, Image and Signal Processing," The Institution of Electrical Engineers, IEE Proceedings, June 2000, Vol. 147, No. 3.				
	MCLEAN ET AL, "Telecine Noise Reduction," XP-002285972, 2001 The Institute of Electrical Engineers.				
1	, OKTEM ET AL, "Transform Domain Algorithm for Reducing Effect of Film-Grain Noise in Image Compression," Electronics Letters, October 14, 1999, Vol. 35, No. 21.				
	Cite No.¹	Cite No. Item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-assue number(s), publisher, dir, another country where published. AL-SHAYKH ET AL, "Lossy Compression of Images Corrupted by Film Grain Noise," School of Electrical and Computer Engineering, 1986 IEEE. AL-SHAYKH ET AL, "Restoration of Lossy Compressed Noisy Images," IEEE Transactions on Image Processing, Vol. 8, No. 10, October 1999. AL-SHAYKH, "Lossy Compression of Noisy Images," IEEE Transactions on Image Processing, Vol. 7, No. 12, December 1998. BRIGHTWELL ET AL, "Automated Correction of Film Unsteadiness, Dirt and Grain," International Broadcasting Convention, September 16-20, 1994, Conference Publication No. 397, IEE, 1994. CAMPISI ET AL, "Signal-Dependent Film Grain Noise Generation Using Homomorphic Adaptive Filtering," IEE Proceedings, Image Signal Process, Vol. 147, No. 3, June 2000. ZHAO ET AL, "Constant Quality Rate Control for Streaming MPEC4 Figs. Video," Integrated Media Systems Center and Department of Electrical Engineering, University of Southern California, 2000 IEEE. CHAVEL ET AL, "Film Grain Noise in Partially Coherent Imaging," Optical Engineering, Vol. 19, No. 3, May-June 1990. FISCHER ET AL, "Image Sharpering Using Permutation Weighted Medians," Department of Electrical Engineering, University of Delaware, Sischer@ee.udel.edu, paredesj@ee.udel.edu, arce@ee.udel.edu. ILLINOWORTH ET AL, "Vision, Image and Signal Processing," The Institution of Electrical Engineers, IEE NCLEAN ET AL, "Transform Domain Algorithm for Reducing Effect of Film-Grain Noise in Image Compression," OKTEM ET AL, "Transform Domain Algorithm for Reducing Effect of Film-Grain Noise in Image Compression,"			

Examiner Date Considere Considere	08/11/2008

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw fine through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on Outcommon Statement. This form is estimated to leave 2.0 mounts to comprese. Time will vary opperancing upon the needs of the Indownation Clier.

Any Comments of the Brown of the Compress of the Compress of the Compress of the Indownation Clier. Washington, DC 20231.

DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TC: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box →

PTO/SB/08B (10-96)
Approved for use through 10/31/99, OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
ond to a collection of information unless it contains a valid OMB control number.

Under the Paperwork Reduction Act of 1995, no persons are required to re Complete if Known Substitute for form 1449B/PTO **Application Number** INFORMATION DISCLOSURE Filing Date FEBRUARY 22, 2006 CRISTINA GOMILA ET AL STATEMENT BY APPLICANT First Named Inventor Group Art Unit 2812 Examiner Name (use as many sheets as necessary) Sheet of Attomey Docket Number PU030259 3 3

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	Т
xaminer nitials	Cite No. ¹	Rem (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
/M.E./		, PRADES-NEBOT ET AL, "Rate Control for Fully Fine-Grained Scalable Video Coders," Visual Communications and Image Processing 2002, Proceedings of SPIE, Vol. 4671 (2002), SPIE 0277-786X/02.	
/M.E.		, SCHAAR ET AL, "Fine-Granularity-Scalability for Wireless Video and Scalable Storage," Visual Communications and Image Processing 2002, Proceedings of SPIE, Vol. 4671 (2002) SPIE 0277-786X/02.	
/M.E./		, SHAHNAZ ET AL, "Image Compression in Signal-Dependent Noise," Applied Optics, Vol. 38, No. 26, September 10, 1999.	Γ
/M.E.		, YAN ET AL, "Efficient Video Coding with Hybrid Spatial and Fine-Grain SNR Scalabilities," Department of Electronic Engineering, Beijing Institute of Technology, China.	
/M.E./		, YAN ET AL, "Film Grain Noise Removal and Generation for Color Images," Department Electrical and Computer Engineers, University of Toronto, dimitris@comm.toronto.edu.	
/M.E./		YAN ET AL, "Signal-Dependent Film Grain Noise Removal and Generation Based on Higher-Order Statistics." University of Toronto, Department of Electrical and Computer Engineering, dimitris@comm.toronto.edu, 1997 IEEE.	
/M.E.	, !	, YOSHIDA, "Go with the Grain, Film R&D Chief Urges, for Art's Sake," EE Times, February 07, 2005.	
/M.	E./	,ZHANG ET AL, "Constant Quality Constrained Rate Allocation for FGS Video Coded Bitstreams," Visual Communications and Image Processing 2002, Proceedings of SPIE, Vol. 4671 (2002) SPIE 0277-788X/02.	
/M.	E./	PENG ET AL, "Adaptive Frequency Weighting for Fine-Granularity-Scalability," Visual Communications and Image Processing 2002, Proceedings of SPIE, Vol. 4671 (2002) SPIE 0277-786X/02, pp. 840-849.	
			L

Examiner Signature	/Michelle Entezari/	Date Considered	08/11/2008

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patient and Trademark Office, Washington, DC 20231. DO NOT SEND PEES OR COMPLETED FORMS TO HIS ADDRESS. SEND TO: Assistant Commissioner for Patients, Washington, DC 20231.